

APHODIUS FROM BURROWS OF A POCKET GOPHER
IN BRAZOS COUNTY, TEXAS
(COLEOPTERA: SCARABAEIDAE)

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ABSTRACT

Five species of *Aphodius* were found living as inquilines in the nesting and refuse chambers of a pocket gopher, *Geomys bursarius brazensis* Davis, at College Station, Brazos County, Texas. Two of these species have not heretofore been reported in association with pocket gophers in Texas.

Although a large and varied arthropod fauna is known to occur in the burrows of many rodents, little attention has been given to the burrows of the various genera of pocket gophers, probably because the disproportionate amount of effort that must be expended to obtain relatively few specimens. However, Criddle (1930) studied the biology of the prairie pocket gopher, *Thomomys talpoides rufescens* Wied-Neuweid, in Manitoba, Canada, and found several species of *Aphodius* that were subsequently described by Brown (1928, 1929a, and 1929b). Also, Hubbell and Goff (1940), working in Florida, reported on the arthropods associated with the pocket gopher, *Geomys floridanus* A. and B. (now known as *Geomys pinetis floridanus* Audubon and Bachman), and Cartwright (1939) described the species of *Aphodius* found in these burrows. Likewise, the burrows of the pocket gopher, *Geomys breviceps atwateri* Merriam (now recognized as *Geomys bursarius texensis* Merriam), found in Bexar County, Texas, were studied by Ross (1944), and the several species of *Aphodius* taken from these burrows were described by Cartwright (1944). Robinson (1948) noted the collection of one species of *Aphodius* (*A. haldemani* Horn) in nests of pocket gophers at College Station, Texas. For the nomenclature and distribution of pocket gophers, the reader is referred to Hall and Kelson (1959).

During the course of laboratory experiments with dung beetles at the Veterinary Toxicology and Entomology Research Laboratory, College Station, Brazos County, Tex., large quantities of sandy loam soil, ca. 6 cu m, are piled at random near the laboratory. (The surface soils in this area are Tabor fine sandy loams about 20 cm thick over a subsoil of very slowly permeable mottled clay-pan.) It was soon apparent that pocket gophers native to the area, *Geomys bursarius brazensis* Davis, were utilizing these masses of soil for construction of nesting, storage, and refuse chambers. This apparently unusual behavior may be, in fact, a modification of the construction of "winter mounds" by pocket gophers that inhabit shallow, poorly drained soils (Davis 1960). During April and December 1973 and January 1974, the piles of soil were disturbed to obtain material for laboratory use, and the burrows were broken into and subsequently completely excavated. All beetles found in the nesting or refuse chambers or in the soil immediately surrounding these chambers were collected. They appeared to have been living as inquilines in this habitat.

Species collected were as follows (number of specimens in parentheses): *Aphodius atwateri* Cartwright, 9-IV-73(3), 13-IV-73(1); *Aphodius haldemani* Horn, 9-IV-73(3), 30-IV-73(1), 6-XII-73(4), 18-I-74(10); *Aphodius insolitus* Brown, 9-IV-73(7), 13-IV-73(4), 30-IV-73(1), 18-I-74(12); *Aphodius kirni* Cartwright, 9-IV-73(15), 30-IV-73(14); *Aphodius* n. sp. ? (near *atwateri* Cartwright), 18-I-74(6).

All specimens of *A. haldemani* were found in nesting chambers or in the soil surrounding these chambers; the other species were found in about equal numbers in the nesting and refuse chambers or in the soil around these chambers.

Two species, *A. insolitus* and *A. sp.* (possibly undescribed), have not been reported previously as associated with pocket gopher burrows in Texas. The collection of the possibly undescribed species increases the possibility that additional species may yet be found in association with pocket gophers and other burrowing animals.

Specimens obtained in the study were deposited in the collections of the U. S. National Museum, Department of Entomology, Texas A&M University, and the senior author.

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